



Standard and Transmission-Based Precautions



Basics of Infection Prevention
2-Day Mini-Course
October-November 2011

Objectives

- Review modes of disease transmission
- Discuss prevention of infection and prevention of transmission
- Review standard and transmission-based isolation precautions



Infection Prevention vs. Transmission Prevention

Infection prevention: avoid introduction of pathogens into sterile body sites (the patient's own flora or someone else's)

Transmission prevention: avoid transfer of pathogens from person to person

- HCW-to-patient
- patient-to-HCW
- patient-to-patient



Standard Precautions



Basic principles

- Designed to reduce risk of transmission from both recognized and unrecognized sources of infection
- Considers all body fluids infectious (except sweat)
- Used for care of all patients



Standard Precautions

Include

- Hand hygiene
- Barrier protective equipment
 - Gloves for anticipated contact with blood, body fluids (except sweat)
 - Mask and eye protection if splash, splatter, or sprays reasonably anticipated
 - Gloves and gown for open, draining wounds, fecal incontinence
 - Mask for new onset or increasing respiratory secretions



Standard Precautions - 2

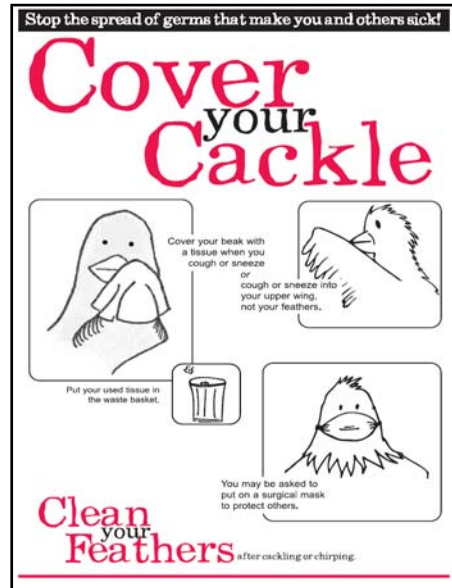
- Proper...
 - use and handling of patient care equipment
 - environmental cleaning and disinfection
 - handling of linen
 - patient placement to minimize disease transmission
- Respiratory Hygiene/Cough Etiquette
- Safe injection practices



Respiratory hygiene and cough etiquette includes

Containment of respiratory secretions

Proper disposal of used tissues



Expanded Isolation Precautions

- Used in addition to Standard Precautions when SP may be insufficient to prevent transmission
- Include
 - Contact precautions
 - Droplet precautions
 - Airborne precautions



Contact Precautions*

- Intended to prevent transmission of infectious agents via direct or indirect contact
- Used for “epidemiologically important” microorganisms
- Places a barrier between the HCW and infectious agent
- Gown and gloves should be donned upon entry to room, discarded prior to exit
- Single room preferred; alternatives are spatial separation or cohorting (after consultation with IP)

* used in addition to Standard Precautions



Droplet Precautions

- Intended to prevent transmission of pathogens via respiratory or mucous membrane contact with respiratory secretions
- No special air handling or ventilation required
- Surgical or procedure mask should be donned prior to entry into room, discarded prior to exit
- Single room preferred; alternatives are spatial separation or cohorting (after consultation with IP)
- Patient should be transported in a mask

* used in addition to Standard Precautions



Airborne Precautions

- Intended to prevent transmission by inhalation of infectious agents that can remain suspended in the air
- Requirements include
 - Increased ventilation rate
 - Air exhausted directly to the outside or through HEPA filtration
 - Facility respiratory protection program (education, fit-testing, user seal checks in place)
- Respirator should be donned prior to entry into room, discarded after exit
- Single room preferred; alternative is cohorting
- Patient should be transported in a mask



Relationship of pressure on droplet size and dispersion

Low pressure produces large droplets



Increasing pressure produces more of a range of droplet sizes that travel further from the source

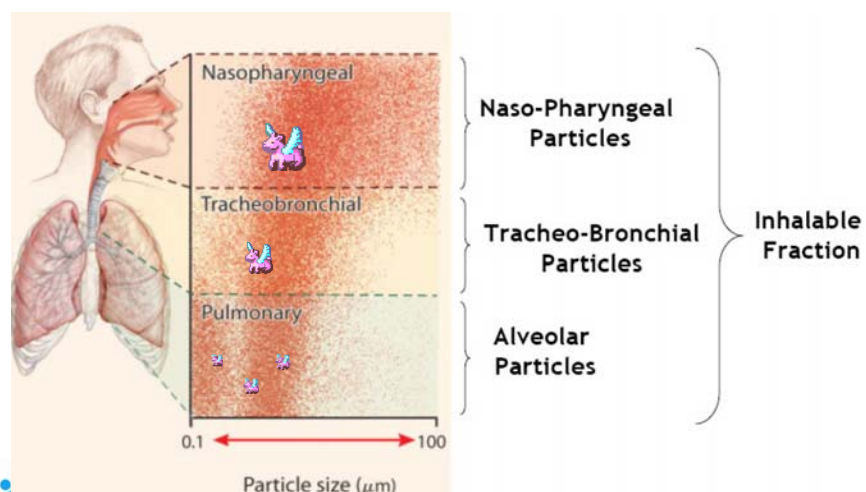
Higher pressure produces sprays of varying sizes including very small particles that can travel even further from the initial source



Model demonstrating variation in particle size and suspension

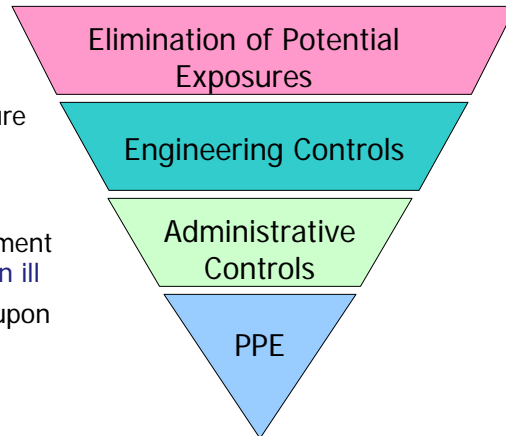


Particulates deposited in respiratory tract according to size



Hierarchy of Control

- Eliminate exposure
 - Mandatory influenza vaccination
- Reduce/eliminate exposure at the source
 - Mask patient with respiratory symptoms
- Only as good as enforcement
 - Staff not working when ill
- Least effective; depend upon individual compliance
 - Respirators



2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

Jane D. Siegel, MD; Emily Rhinehart, RN MPH CIC; Marguerite Jackson, PhD; Linda Chiarello, RN MS; the Healthcare Infection Control Practices Advisory Committee

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Suggested citation: Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings
<http://www.cdc.gov/ncidod/dhqp/pdf/isolation2007.pdf>



Note: HICPAC guidelines are CDC guidelines



Questions?

For more information, please contact any
HAI Liaison Team member

Thank you

